

TROPICAL DEPRESSION 34W

Tropical Depression 34W was the second of three significant tropical cyclones that formed in the western North Pacific during December. It was first mentioned on the 070600Z December Significant Tropical Weather Advisory when satellite imagery and synoptic data showed that a low-level circulation center was associated with an area of persistent deep convection northwest of Borneo. As the deep convection became better organized, the JTWC issued a Tropical Cyclone Formation Alert, valid at 071130Z. Ship reports indicating wind speeds of 30 kt (15 m/sec) near the low-level circulation center prompted the JTWC to issue the first warning on Tropical Depression 34W, valid at 080600Z. Even higher wind speeds of 40 kt (21 m/sec) were occurring throughout much of the South China Sea to the north of TD 34W as a manifestation of a surge in the Northeast Monsoon.

Under normal conditions, a surge in the northeast monsoon flow of winter in the South China Sea accompanies a low-pressure system that becomes anchored off the northwest coast of Borneo — the so-called "Borneo low". Tropical cyclogenesis is not normally expected from a true Borneo low. In the case of TD 34W, however, the low-pressure area that formed to the northwest of Borneo was not a typical Borneo low, but rather, it formed from processes that produce tropical cyclone twins during times of enhanced equatorial westerly winds (Lander 1990). Tropical Depression 34W was the Northern Hemisphere twin to Tropical Cyclone Frank (03S) in the Southern Hemisphere (Figure 3-34-1a,b).

Whereas Frank (03S) recurved into northwestern Australia, TD 34W was constrained by the Northeast Monsoon to remain in the southern portion of the South China Sea for its entire life. For three days (08-11 December), the depression meandered in a small area about one degree of latitude square, centered near 8°N 114°E. During the night of 11 December, convection had subsided, and a "final" warning was issued, valid at 111800Z. The remnant low-level vortex drifted to the west during 12 December, and on 13 December, satellite imagery indicated that the system had regenerated, prompting the JTWC to reissue warnings commencing at 130600Z. The second final warning was issued by the JTWC, valid at 140600Z, as the system dissipated over water near 7°N 109°E.

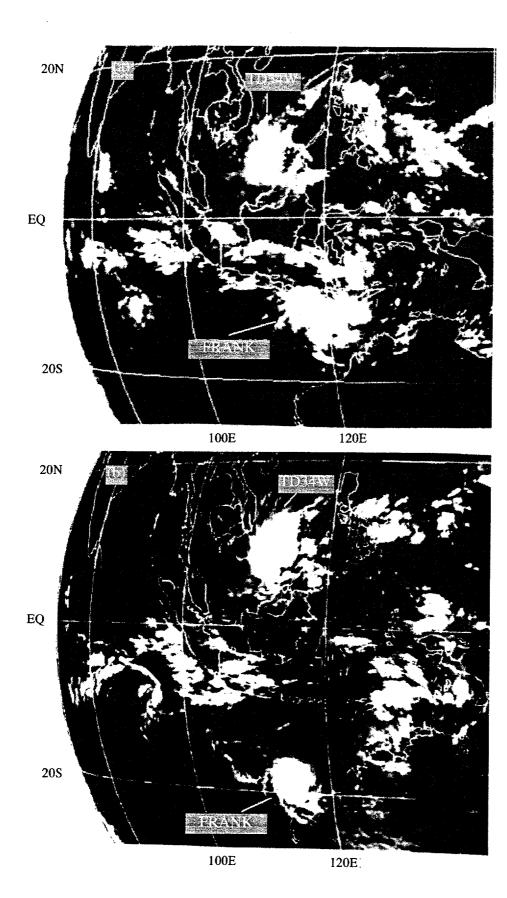


Figure 3-34-1 Tropical Depression 34W, and Tropical Cyclone Frank (03S) developed in tandem as tropical cyclone twins: (a) 070033Z December infrared GMS imagery, and (b) 100033Z December infrared GMS imagery).